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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,465	12/03/2001	Thomas Eckel	Mo-6623/LeA 34,860	2780
157	7590	10/22/2004		
BAYER MATERIAL SCIENCE LLC 100 BAYER ROAD PITTSBURGH, PA 15205			EXAMINER BUTTNER, DAVID J	
			ART UNIT	PAPER NUMBER

1712

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,465

Applicant(s)

ECKEL ET AL.

Examiner

David Buttner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4,6-11,13,14,16,17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,4,6-11,13,14,16,17,19,20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim 4 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The base claim already requires aromatic groups.

Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim 9 limits methacrylic alkylates to being 1-50% of (c). Earlier in the claim (meth)acrylic alkylates are listed as possibly being 50-99% of (c). The two phrases are inconsistent. The same problem exists in claim 10.

A homopolymer of methylmethacrylate does not meet the claims because such a polymer has 100% of methacrylic acid alkylate. 100% does not meet the 50-99% limitation. 100% does not meet the 1-50% limitation either.

A copolymer of 75% methylmethacrylate and 25% butylmethacrylate does not meet the claims. Such a polymer has 100% methacrylic acid alkylate. 100% does not meet the 50-99% limitation. 100% does not meet the 1-50% limitation. Perhaps applicant believes one can arbitrarily ignore the butylmethacrylate when calculating the amounts of "styrene, methyl styrene, chlorostyrene and methacrylic C₁- C₈ alkylates" and correspondingly ignore the amount of methylmethacrylate when calculating the amounts of "vinyl cyanides, (meth) acrylic C₁ – C₈ alkylate and unsaturated acids." The

examiner does not agree. All the members of the Markush groups must sum to 50-99% and 1-50% respectively.

If applicant's position was correct, a competitor could use a 75/25 methylmethacrylate/butylmethacrylate copolymer, without infringing the claim. The potential infringer could arbitrarily ignore the methyl methacrylate when calculating 50-99% limitation. 25% butylmethacrylate does not meet the 50-99% limitation. 75% methyl methacrylate does not meet the 1-50% limitation.

Claims 3,4,6-11,13,14,16,17,19 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Eckel '404 in view of Gosens '394.

Eckel '404 produces an emulsion ABS of high graft yield (col 14 line 45) utilizing hydroperoxide and ascorbic acid (col 14 line 13,18). This results in a blend of SAN grafted to rubber and minor amounts of free SAN. The mixture is then blended with PC (#2,11-13). The PC is based on bisphenol A and another bisphenol (col 13 line 48). Eckel (col 13 line 16) suggests flame retardants but does not name any species.

Phosphates are well known flame retardants for PC compositions (see Gosens abstract). It would have been obvious to add any phosphate flame retardant to Eckel's composition for the expected result. Presumably the impact strength requirement is met by the proposed composition because the same materials in the same amounts are used.

Claims 3,4,6-11,13,14,16,17,19 and 20 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Witmann '465.

Witmann claims (#1) blends of polycarbonate, grafted rubber, thermoplastic copolymer or polyester, phosphate and fluorinated polyolefin. The grafted rubber is polymerized with hydroperoxide and ascorbic acid which applicant's preferred redox system (see claim 16). The graft is made by polymerizing 40-90% rubber with 60-10% grafting monomers. The graft yield is preferably greater than 75% (col 4 line 24). With at least 75% of the grafting monomers actually attaching to the rubber, then at most the graft product would consist of 45% free copolymer and 55% graft. The Z ratio for this graft product is inherently greater than 1. When the amount of thermoplastic copolymer (C) is zero or polyester is used as (C) the Z ratio remains greater than 1. Presumably the impact strength requirement is met by the proposed composition because the same materials in the same amounts are used.

Claims 3,4,6-11,13,14,16,17,19 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over The DE4235642 Patent in view of Witmann '285.

Eckel '015 is relied on as a translation of DE4235642.

Eckel exemplifies (table) blends of PC,PET, ABS, phosphate and PTFE. The ABS is produced by polymerizing 45 parts styrene and acrylonitrile on 55 parts of rubber. Even if little of the grafting monomers actually attach to the rubber, the Z ratio must be greater than 1.2 (ie 55/45).

Eckel does not disclose applicant's preferred initiating system of hydroperoxide/ascorbic acid.

Witmann teaches such a system improves graft yield of the ABS which improves the composition's fracture resistance and fuel resistance (see table I).

It would have been obvious to utilize a hydroperoxide/ascorbic acid initiating system to make the ABS of Kurata for the expected improvements.

Claims 3,4,6-11,13,14,16,17,19 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Alberts CA2300216 optionally in view of Witmann '285.

Alberts exemplifies (table I) blends of PC, ABS, SAN, phosphate and PTFE. Preferably the ABS (page 11 line 16) is made by the redox initiation of Witmann '285. Alberts does not report the amount of free ungrafted SAN produced during the ABS synthesis. Assuming the Witmann '285 process was used, a high graft yield (eg >75%) occurs (see Witmann col 4 line 41). This would mean the ABS used in Alberts' example consists of more than 3.8g of graft and less than 0.5 g of free SAN. It is apparent that the Z ratio $3.8g/(2.7g + 0.5g)$ is greater than one.

Applicant's arguments filed 8/12/04 have been fully considered but they are not persuasive.

The examiner does not agree with applicant's interpretation of claim 9 and 10's language. The hypothetical 75/25 methylmethacrylate/butylmethacrylate copolymer has 100% alkylmethacrylate. This does not meet the 50-99% limitation or the 1-50%. Applicant's explanation selectively ignores some alkylmethacrylates (ie the butylmethacrylate) when determining if the 50-99% limitation is met. It is not understood why these amount limitations are present if applicant does not intend to be limited to the ranges.

Applicant argues Eckel '404 requires a specialized cycloaliphatic type bisphenol PC excluded from the current claims.

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This is not convincing. Eckel's PC is made from two types of bisphenol. The first (bisphenol A) certainly meets applicant's requirements. Applicant's claims do not exclude any other bisphenols from also being utilized.

Even if the language could be construed as excluding other bisphenols, the new rejections are all directed to bisphenol A type polycarbonates.

Limiting the scope of phosphorous compound and PC's required the additional rejections.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Buttner whose telephone number is 571-272-1084. The examiner can normally be reached on weekdays from 10 to 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAVID J. BUTTNER
PRIMARY EXAMINER

DButtner
10/20/04

David Buttner